Ahsay Proxy Redirector

V1

Administrator's Guide

Ahsay Systems Corporation Limited

17 October 2013

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Revision History

Date:	Description	Type of modification
03 Feb 2012	First revision for Ahsay Proxy Redirector v1.0 Release	New
23 Apr 2012	4.4.2 Prepare a wild card certificate for the AhsayPRD	Modified
27 Jun 2012	4.3.1 Required Package	New
05 Jul 2012	4.4.3 Prepare the AhsayOBS template for your resellers	Modified
04 Oct 2012	Copyright Notice	Modified
05 Feb 2012	4.4.4 Setup each dedicated AhsayOBS instance	Typo
06 Feb 2012	4.3.1 Required Package	Modified
22 Feb 2012	4.4.5 Remove an AhsayOBS instance	New
09 Oct 2013	4.5 Uninstall Software	New

Table of Contents

1 Overview 1
1.1 Conventions 1
1.2 Definitions, Acronyms and Abbreviation 1
1.3 System Requirements 2
2 Overview and Benefits 3
2.1 Overview 3
2.2 Benefits 4
3 Best Practices and Recommendations 5
3.1 Hardware Requirements 5
3.2 Server Configuration 6
3.3 Expose only TCP port 80 and 443 to the public 7
3.4 Restricting Access on Administration Panel 7
3.5 File System Tuning 7
3.6 Anti-Virus Software 7
3.7 Network Load Balancing Configuration 8
3.8 Reseller Management 8
3.9 Other AhsayOBS Settings 8
4 Setup Instruction 9
4.1 Getting Started 9
4.2 Hard Disk Setup 9
4.3 Windows Setting 14
4.3.1 Required Package 14
4.4 Install Software 14
4.4.1 Install Ahsay Proxy Redirector 15
4.4.2 Prepare a wild card certificate for the AhsayPRD 16
4.4.3 Prepare the AhsayOBS template for your resellers 19
4.4.4 Setup each dedicated AhsayOBS instance 25
4.4.5 Remove an AhsayOBS instance 34
4.5 Uninstall Software 35
4.6 Manage your AhsayOBS Instance and Future expension 36
4.6.1 Add new storage for your resellers 36
4.6.2 Update your existing AhsayOBS instance 37
5 Further Information 39

1 Overview

1.1 Conventions

A list of notations that are used throughout this document.

Convention	Descriptions	Example
Bold	Important Information	**WARNING: You must check the timestamp of obrA.jar before proceeding to step2.**
Italic	Folder Path or File Path	*/usr/local/obs/conf*
[]	Graphical Interface Elements	[Manage Log]
%%	Filepath in Windows format	%OBSR_HOME%
$	Filepath in Linux/Unix/BSD format	$OBSR_HOME
italic	Command	*mkdir /usr/local/obs*

Notation that are used specificially for API section:

Convention	Descriptions
<Text Inside angle brackets>	Placeholder for which you must supply a value.
[Text inside square brackets]	Optional items.
{Text insides braces}	Set of required items; choose one.
Vertical bar (|)	Separator for mutually exclusive items; choose one.
Ellipsis (…)	Items that can be repeated.

1.2 Definitions, Acronyms and Abbreviation

Term / Abbreviation	Definition
AhsayPRD	Ahsay™ Proxy Redirector
AhsayOBS	Ahsay™ Offsite Backup Server
AhsayRPS	Ahsay™ Replication Server
AhsayRDR	Ahsay™ Redirector Server
AhsayOBM	Ahsay™ Online Backup Manager
AhsayACB	Ahsay™ A-Click Backup
OBSR_HOME	The install location of AhsayOBS & AhsayRPS.

	Windows *C:\Program Files\AhsayOBS and AhsayRPS* Linux/FreeBSD/Solaris /usr/local/obs/
CONF_HOME	The backup location of AhsayOBS & AhsayRPS. It is used temporary during the install/upgrade process. Windows *%OBSR_HOME%\conf* Linux/FreeBSD/Solaris $OBSR_HOME/conf
USER_HOMES	The directories where AhsayOBS and AhsayRPS store the AhsayOBM & AhsayACB users accounts. The default location is: *%OBSR_HOME%\users*
WEBAPPS_HOME	Location of the webapps directory inside the installation directory of AhsayOBS & AhsayRPS. Windows *%OBSR_HOME%\webapps.* Linux/FreeBSD/Solaris *$OBSR_HOME\webapps*
JAVA_HOME	The location where JAVA is installed

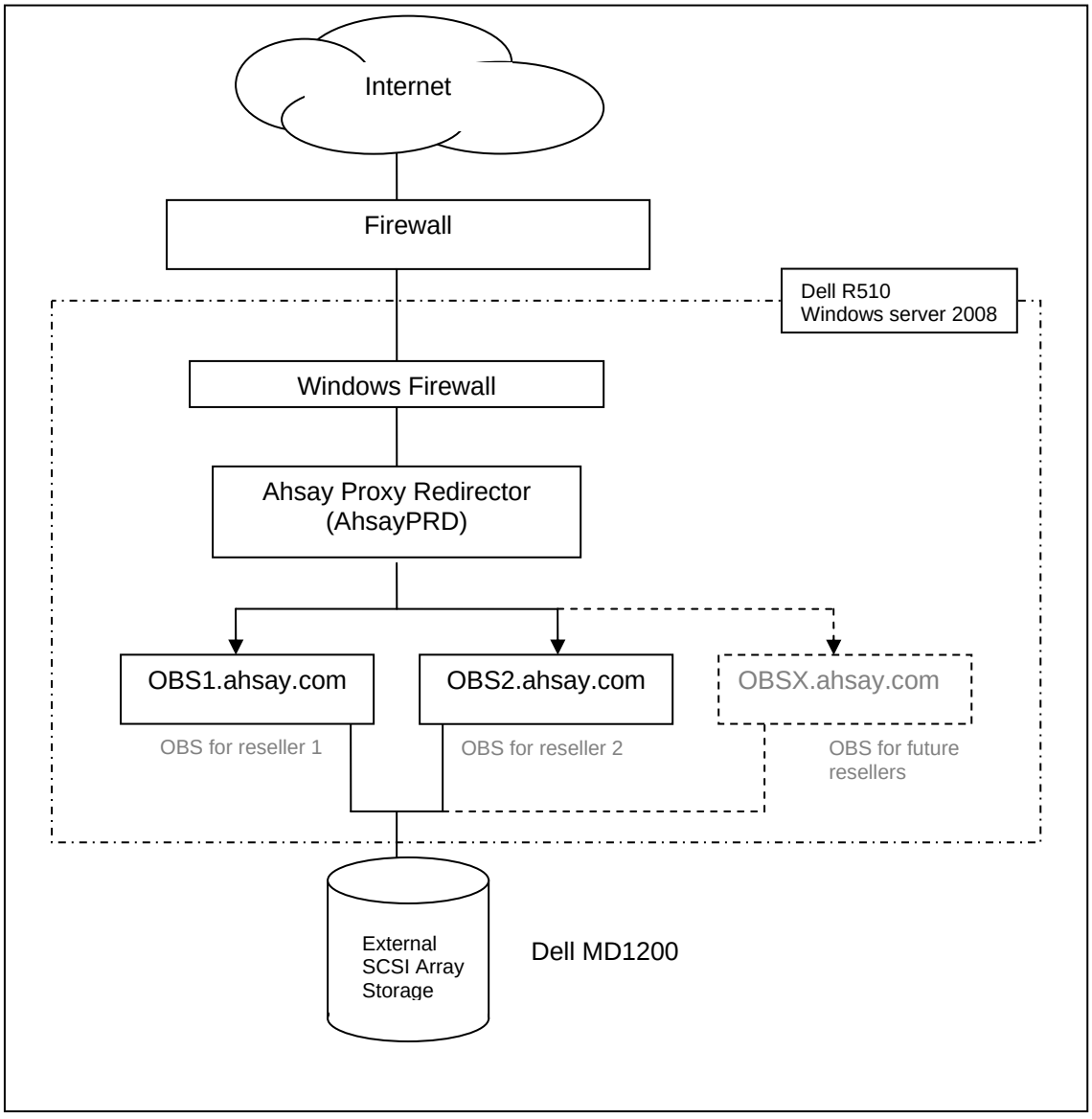
1.3 System Requirements

It is recommended to install Ahsay Proxy Redirector on server grade O/S and hardware platform, such as Windows Server 2003 – 64 bit, Windows 2008 server or Windows 2008 server R2. However, for evaluation purposes installation on Windows XP or Windows 7 platforms would be fine for testing.

2 Overview and Benefits

The Ahsay Proxy Redirector (AhsayPRD) is the tool for hosting multiple AhsayOBS instance on the same machine. The AhsayPRD redirects the incoming internet traffic calling to eg: OBS1.ahsay.com or OBS2.ahsay.com through a specific port defined in the AhsayPRD configuration file.

2.1 Overview



In our example, we installed the AhsayPRD on a Windows 2008 server R2, we have 2 AhsayOBS instances named as OBS1.ahsay.com and OBS2.ahsay.com , and we can increase the number of AhsayOBS instances by making a copy of the AhsayOBS template with some settings change in the AhsayPRD. This will be described in later chapters.

2.2 Benefits

AhsayPRD provides an easy way for hosting multiple AhsayOBS instances on one physical backup server hardware, which give you many benefits as stated below.

1. As AhsayOBS is not resource demanding, setting up multiple AhsayOBS instances on one hardware allows you to fully utilize the power of that hardware.

2. Only one operating system license is required, as all AhsayOBS instances are running on the same operating system. Therefore, you can save a great deal of expenditure on purchasing multiple operating system licenses.

3. Only one IP is required, as routing to the individual AhsayOBS instances can be done through the use of server ports. Thus, spending on purchasing multiple IPs can also saved.

4. If the multiple AhsayOBS instances you intend to use can be under a same domain, only one SSL certificate is required. Thus, spending on purchasing multiple SSL certificates can be saved.

5. Individual AhsayOBS instances can have their own brandings, including branded AhsayOBS, AhsayOBM, AhsayACB and AhsayRPS applications, branded reports, customized settings, automatic updating of AhsayOBM and AhsayACB, etc. It thus allows a service provider to set up different AhsayOBS instances with different brandings for their resellers effortlessly. Moreover, as each AhsayOBS instance can have its own domain name, each reseller can have its own branded AhsayOBS for offering its own braned online backup business.

6. As you can add new AhsayOBS instances anytime, it provides you with the scalability for the expansion of your backup system in the future.

3 Best Practices and Recommendations

This chapter lists out all best practices and recommendations which you should consider before deploying AhsayPRD with AhsayOBS to a production environment.

3.1 Hardware Requirements

AhsayPRD should be installed on a machine supporting 64 bit multiple CPU and multiple cores. A 64 bit Operating System will allow AhsayPRD and AhsayOBS to run on a 64 bit Java JRE platform, as 64 bit Java is capable of supporting larger Java heap size settings. This type of configuration will provide sufficient capacity for future business expansion, to meet the needs of exisiting customers, and to support new AhsayOBS server features.

A more powerful machine will also reduce the need for frequent hardware upgrades, which will require service down time for data migration.

It is a good idea to ensure your server is equipped with some redundancy features, i.e power supply, network card, and is connect it to a UPS (Uninterupterable Power Supply).

Processor
Intel® CoreTM 2 Duo or above, Intel® Xeon® CPU recommended.

Physical memory
4 GB or above

The number of ram required is proportional to number of AhsayOBS instances that can be created. For example you can configure 4GB of ram to run 2 AhsayOBS instances for start. When the number of AhsayOBS instances increase, or total number of backup users increased, you will need to adjust the physically memory accordingly.

Server
Server with several removable hard disk bays is recommended.

Disk storage
Two physical 1-2TB internal hard disks for OS and AhsayOBS application, four hard disks mounted on removable hard disk bay for reseller's client storage. SCSI type storage array or SAN recommended.

In our example, we have a pair of hard disks with RAID 1 formatted, and partitioned it into 2 volumes C: and D:. The Windows OS is installed on C while the OBS application will be installed on D drive. Each reseller's client data are stored into a dedicated disk with RAID 1 formatted. The amount of hard disks used and the RAID setup is purely for your reference. This setup would depends on the amount of storage required and the severity of your

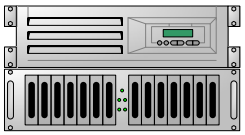
reseller service, RAID 5 or above setup may be required according to your reseller's requirement.

In our example, we are using RAID 1 for each reseller's user home. We setup the storage as RAID 1, this is because when your reseller requires to get the hard disk for restoring purpose, we can simply get take hard disk out from the data center and deliver the hard disk to your reseller.

Operating System
Server grade OS such as Windows server 2003 SP2 64-bit or above, Windows server 2008 R2 SP1 recommended.

Note: A standard Windows Server 2008 R2 has a limitation of **32GB** of physical memory, if you are going to host more AhsayOBS instances or support more users on the same server, Datacenter or Enterprise edition may need to consider. Please refer to Windows Dev Center about the Physical Memory Limits on Windows Server 2008 R2

Example
The following example is the hardware setup used in the following sections. It is a Dell server R510 with external disk array module MD1200. R510 has 12 slots (built-in) which use H700 internal integrated RAID controller. The external disk array module MD1200 has 12 slots and use H800 as the external RAID controller. H800 has 2 slots to control external disk array. You can add new disk array if more resellers or additional disk storage required.



Processor:	Intel® Xeon® CPU X5650 @2.67GHz (2 processors)
Installed RAM:	32.0 GB
RAID card:	PERC H700 Internal Integrated (internal disk array) and PERC H800 External Adapter for MD1200 (external disk array). If you have a PERC 6/E, you can connect it to an external MD1000 disk array module. However MD1000 may be discontinued in some countries.

3.2 Server Configuration

One of the most important factors in determining backup and restore performance is the disk performance of the server. You should consider using:

i. A separate local drive for each individual AhsayOBS instance's user home.
ii. A separate local drive for AhsayOBS system home.

It is not recommended to use the O/S partition or drive as the AhsayOBS system or user home. If the O/S partition runs out of space, this will cause your O/S to become unstable and may even crash your AhsayOBS server.

3.3 Expose only TCP port 80 and 443 to the public

It is recommended to expose only TCP port 80 and 443 to the public on your firewall. Please consult the user's manual of your firewall for more information on how to do so.

3.4 Restricting Access on Administration Panel

For security reasons, we would recommend that the Administration Panel of AhsayOBS/AhsayRPS must be hidden from public access, i.e. it should be exposed to local area network only.

3.5 File System Tuning

In order to ensure optimal performance from a server file system, please ensure that you:

1. Use local drives instead of network drives, i.e. iSCSi, NFS, SAMBA etc

2. Tune your file system. For example, for NTFS, run the followings:

```
fsutil behavior set disasble8dot3 1
fsutil behavior set mftzone 2
fsutil behavior set disablelastaccess 1
fsutil behavior set memoryusage 2
```

3. Turn off drive indexing [on MS Windows O/S this is used for faster searching] feature for each system and user home drive(s).

3.6 Anti-Virus Software

If you have anti-virus software installed on your server, please make sure the user home and system home drives are excluded from scanning, as this may interfere with normal AhsayOBS operation.

3.7 Network Load Balancing Configuration

For servers which are configured with network load balancing, i.e. a dual WAN router or Round Robin routing. A static route should be configured for your AhsayOBS server connection to the Ahsay license server (lic.ahsay.com). This will ensure the remote IP address sent by AhsayOBS to the Ahsay license server will remain the same during daily routine license checks. This will avoid potential license errors, i.e. 1011 or 1012 license errors which could result of the automatic shutdown of your AhsayOBS service.

3.8 Reseller Management

AhsayPRD can be used by advanced service providers for managing their resellers. It provides you with more flexibilities than the System User Management (Reseller Panel) function bundled with AhsayOBS. Thus, if you are a service provider looking for reseller management feature, and you are able to manage AhsayPRD, we suggest you to use AhsayPRD for this purpose instead of the built-in Reseller Panel of AhsayOBS.

3.9 Other AhsayOBS Settings

All other settings such as Java heap size, QPS settings, scheduling backup jobs, replication, SSL certificate, API or other AhsayOBS settings can generally follow the instructions in our AhsayOBS administrator guide.

4 Setup Instruction

4.1 Getting Started

This chapter describes the minimum setup required to start using the AhsayPRD setup.

Assumption: You have installed Windows server 2003/2008 on a server with removable hard disks. If you are not sure on this setup, please check on Chapter 3 Best Practices and Recommendations.

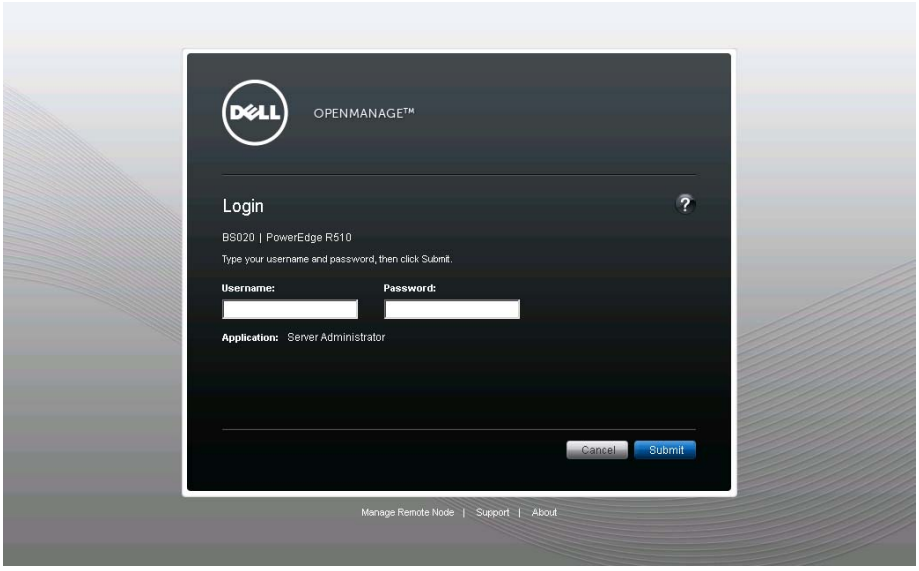
The following setup would be base on a Windows Server 2008 R2 installed on Dell R510 with an internal SCSI storage array with PERC H700.

Note: You may use external MD1000 with PERC 6/E or external MD1200 with PERC H800. The MD1000 is an older model and may be discontinued in some countries.

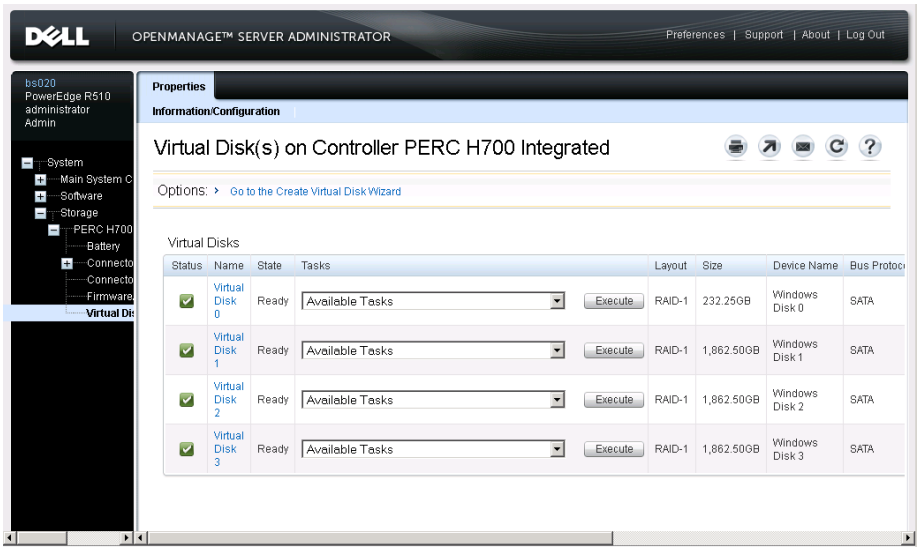
4.2 Hard Disk Setup

We will assign a pair of hard disks for the user home of each AhsayOBS

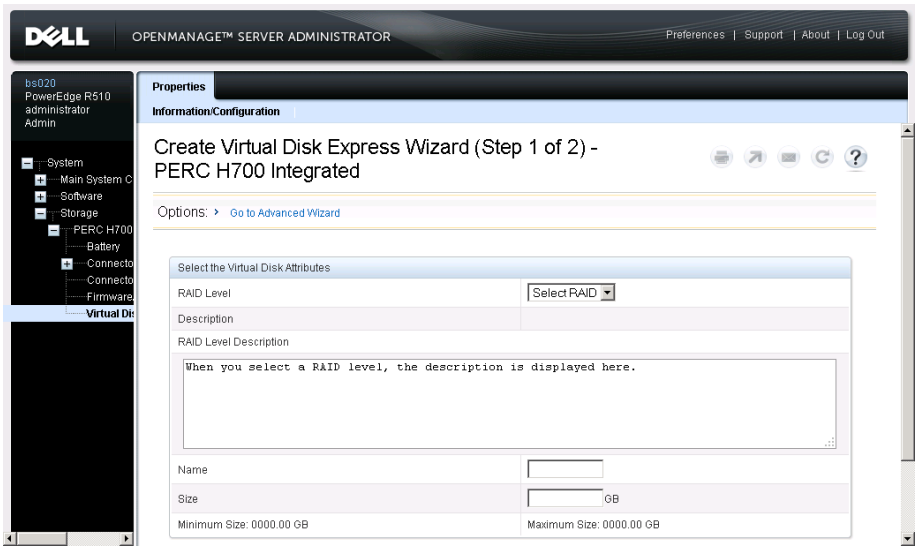
1. Open the DELL OPENMANGE™ in your browser, type https://your_servername:1311 and login the OPENMANAGE™ admin page with administrator.



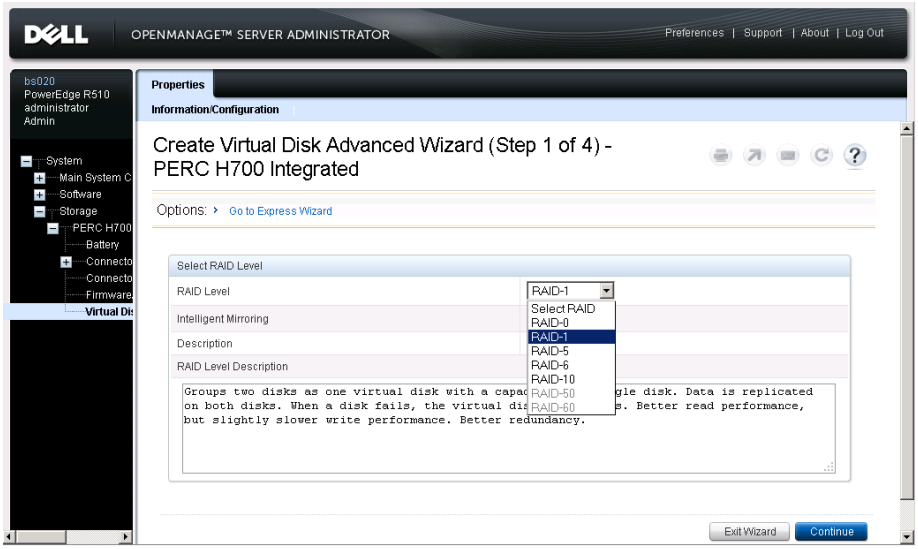
2. On the left navigation, navigate to [System] > [Storage] > [PERC H800 External Adapter (PCI Slot 4)] > [Connector 0 (RAID)] > [Virtual Disk]


DELL
OPENMANAGE™ SERVER ADMINISTRATOR
Preferences | Support | About | Log Out
bs020
PowerEdge R510
administrator
Admin
Properties
Information/Configuration
Virtual Disk(s) on Controller PERC H700 Integrated
Options: › Go to the Create Virtual Disk Wizard
Virtual Disks
Status Name State Tasks Layout Size Device Name Bus Protoc
Virtual Disk 0 Ready Available Tasks Execute RAID-1 232.25GB Windows Disk 0 SATA
Virtual Disk 1 Ready Available Tasks Execute RAID-1 1,862.50GB Windows Disk 1 SATA
Virtual Disk 2 Ready Available Tasks Execute RAID-1 1,862.50GB Windows Disk 2 SATA
Virtual Disk 3 Ready Available Tasks Execute RAID-1 1,862.50GB Windows Disk 3 SATA

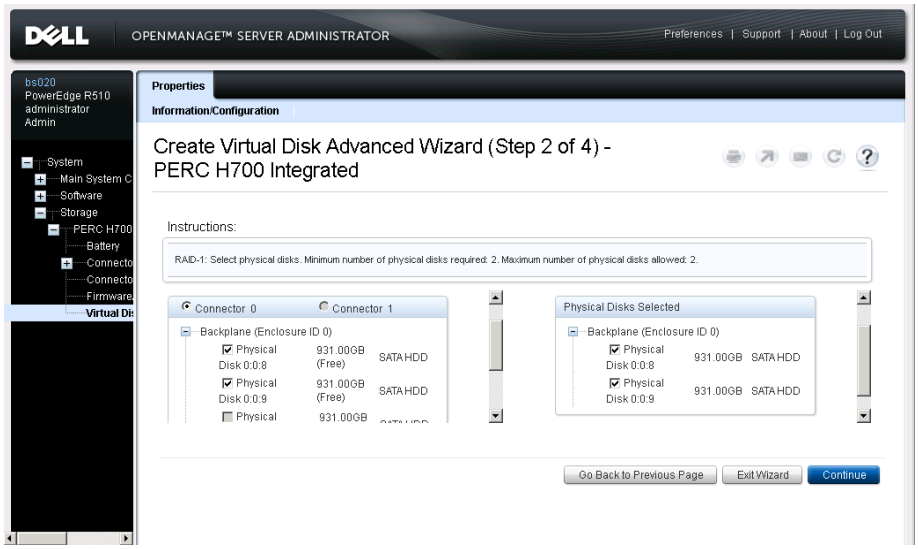
3. In the right panel, select > Go to the Create Virtual Disk Wizard , click on the [Go to Advance Wizard]



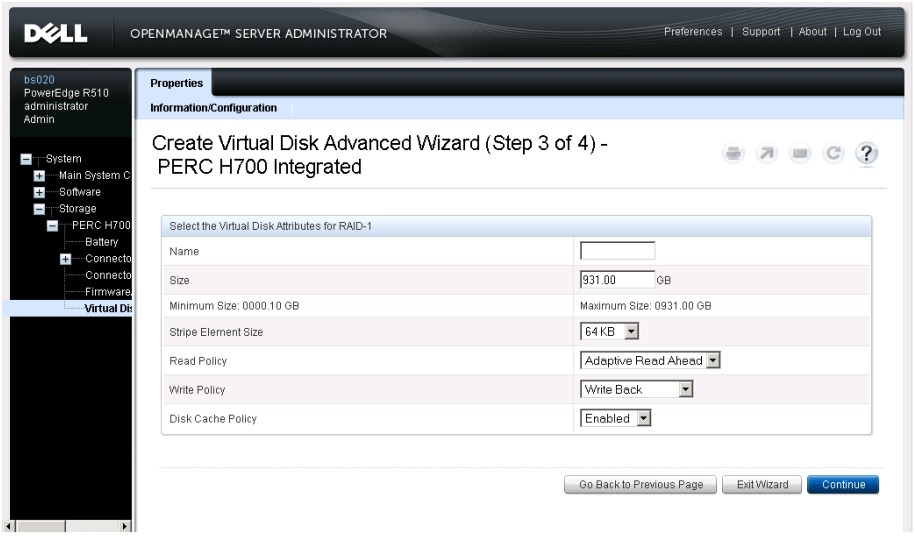
4. Select RAID Level as RAID-1 , click [Continue]



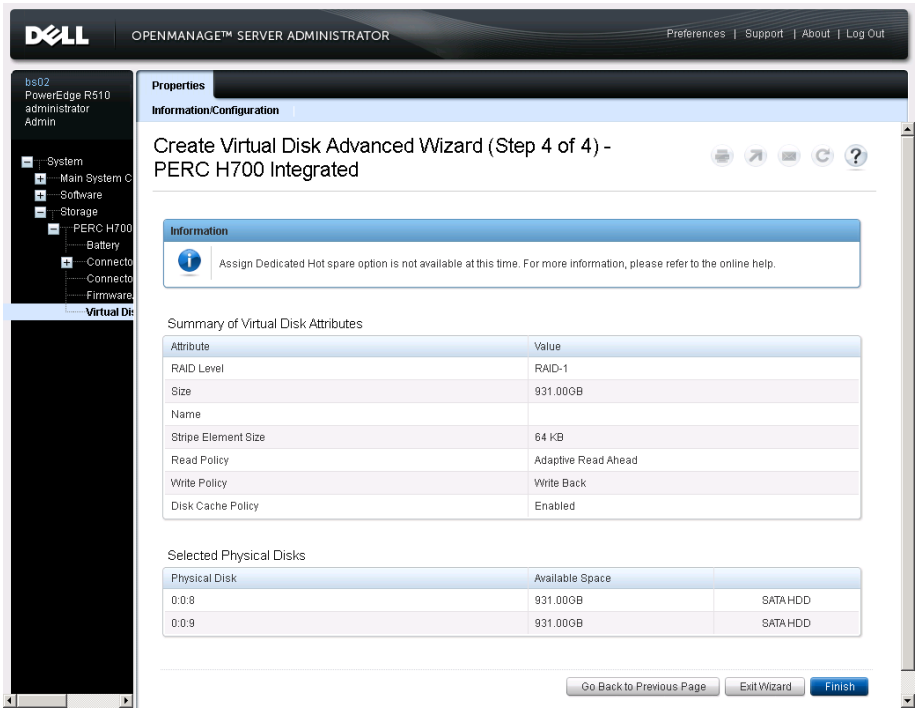
5. Select the disks from the Connector panel (left), you can also see the selected hard disks on the right, click [Continue]



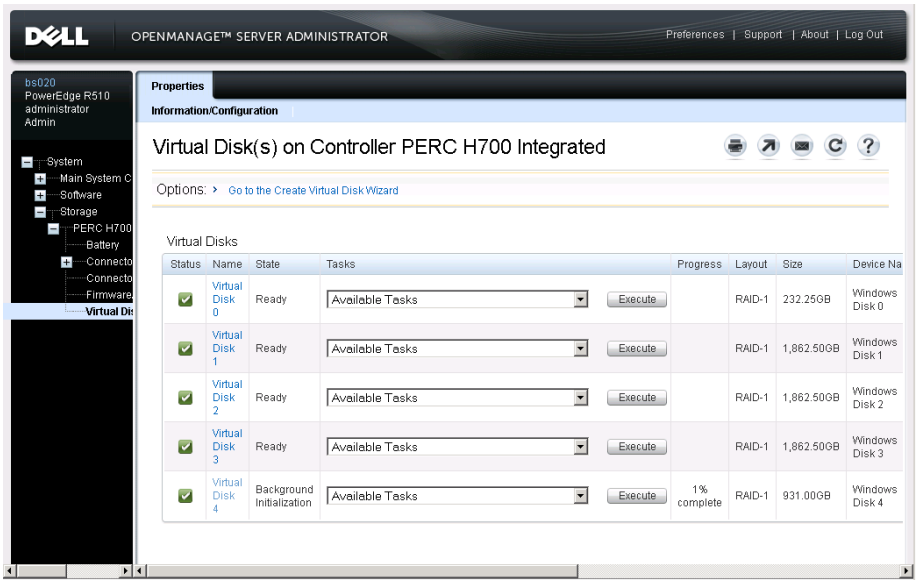
6. Click on [Continue]



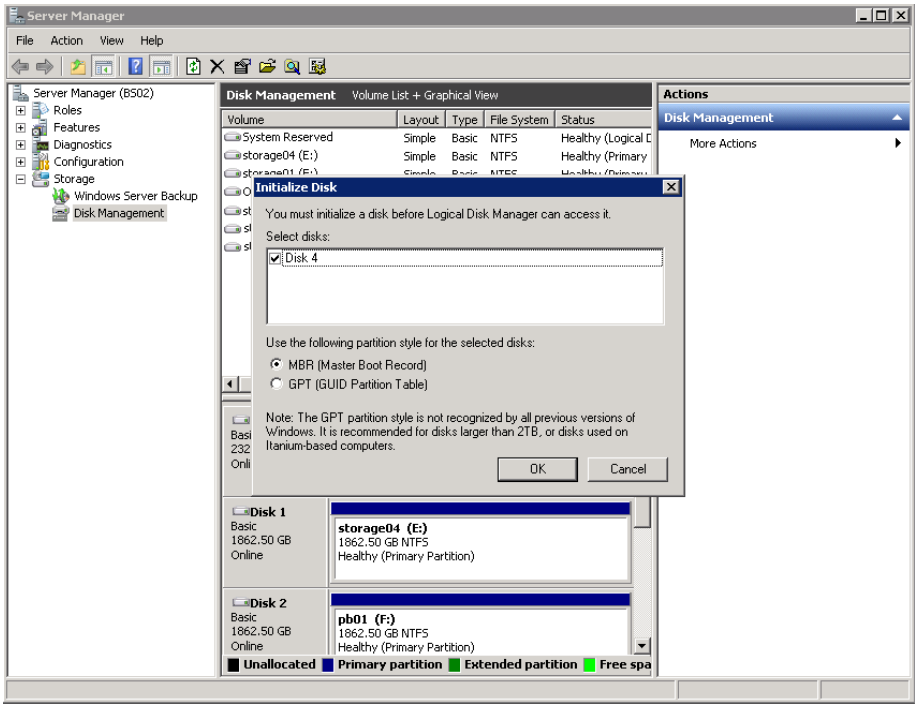
7. Click on [Finish]



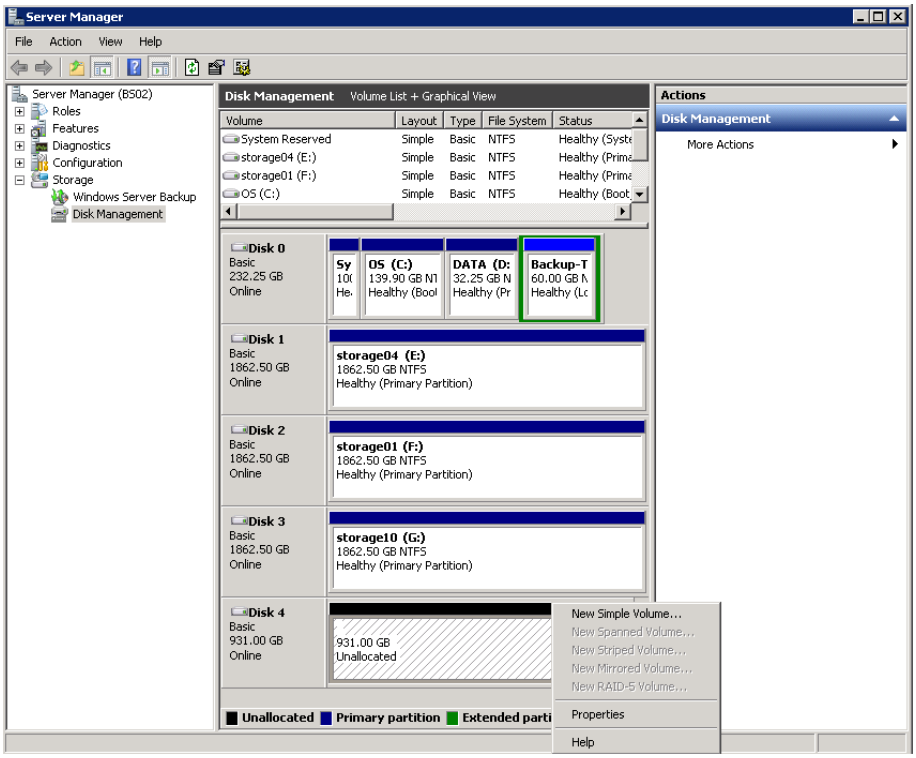
8. Wait for a few minutes, and refresh the screen, you will see the background initialization of the virtual disk starts.


DELL
OPENMANAGE™ SERVER ADMINISTRATOR
Preferences | Support | About | Log Out
bs020
PowerEdge R510
administrator
Admin
Properties
Information/Configuration
Virtual Disk(s) on Controller PERC H700 Integrated
Options: Go to the Create Virtual Disk Wizard
Virtual Disks
Status Name State Tasks Progress Layout Size Device Na
Virtual Disk 0 Ready Available Tasks Execute RAID-1 232.25GB Windows Disk 0
Virtual Disk 1 Ready Available Tasks Execute RAID-1 1,862.50GB Windows Disk 1
Virtual Disk 2 Ready Available Tasks Execute RAID-1 1,862.50GB Windows Disk 2
Virtual Disk 3 Ready Available Tasks Execute RAID-1 1,862.50GB Windows Disk 3
Virtual Disk 4 Background Initialization Available Tasks Execute 1% complete RAID-1 931.00GB Windows Disk 4

9. When you enter the Server Manager, Windows will prompt you that you have a new disk, and you can select MBR if your disk is less than 2TB, if your disk is larger than 3TB, you need to choose GPT.



10. Right click the new disk (Disk4) and format it as a New Simple Volume, assign a drive letter to the drive, and use NTFS as the file system. Wait until the format completed. The drive is ready to use.


Server Manager
File Action View Help
Server Manager (BS02)
Roles
Features
Diagnostics
Configuration
Storage
Windows Server Backup
Disk Management
Disk Management Volume List + Graphical View
Volume Layout Type File System Status
System Reserved Simple Basic NTFS Healthy
storage04 (E:) Simple Basic NTFS Healthy
storage01 (F:) Simple Basic NTFS Healthy
OS (C:) Simple Basic NTFS Healthy
Disk 0 Basic 232.25 GB Online
OS (C:) 139.90 GB NT Healthy
DATA (D: 32.25 GB N Healthy
Backup-T 60.00 GB N Healthy
Disk 1 Basic 1862.50 GB Online
storage04 (E:) 1862.50 GB NTFS Healthy (Primary Partition)
Disk 2 Basic 1862.50 GB Online
storage01 (F:) 1862.50 GB NTFS Healthy (Primary Partition)
Disk 3 Basic 1862.50 GB Online
storage10 (G:) 1862.50 GB NTFS Healthy (Primary Partition)
Disk 4 Basic 931.00 GB Online
931.00 GB Unallocated
New Simple Volume...
New Spanned Volume...
New Striped Volume...
New Mirrored Volume...
New RAID-5 Volume...
Properties
Help
Unallocated Primary partition
Actions
Disk Management
More Actions

4.3 Windows Setting

By default, Windows firewall is blocked for all the incoming traffic. You need to enable the Windows firewall setting so that external port 80 and 443 can reach your AhsayOBS server instance.

4.3.1 Required Package

Please check on your Windows to ensure that the following package is installed before you install AhsayPRD.

- Microsoft Visual C++ 2008 SP1 Redistributable Package (x86)

The AhsayRPD installation will be failed if the above package is not installed. In addition, if you have previous version of Microsoft Visual C++ redistributable packages, please try to uninstall it first before installing the above redistributable package.

4.4 Install Software

Please follow the belowing steps to install the Ahsay Proxy Redirector.

4.4.1 Install Ahsay Proxy Redirector

1. Download the Ahsay Proxy Redirector from here.

2. Unzip the Ahsay Proxy Redirector and put it in D:\Application

3. Modify the httpd.conf file in D:\Application\Ahsay Proxy Redirector\conf

httpd.conf

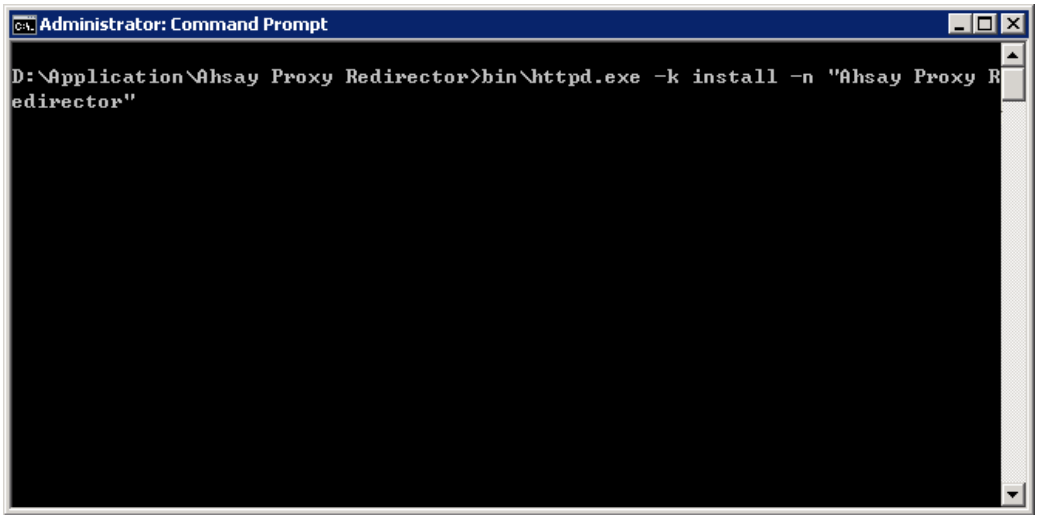
```
ServerRoot "D:/Applications/Ahsay Proxy Redirector"

# include basic configuration files
Include conf/httpd-basic.conf

# Define NameVirtualHost settings for IP OBS
NameVirtualHost 123.123.123.123:80
NameVirtualHost 123.123.123.123:443

# Define VirtualHost settings for company1.ahsay.com
# Need to add this connector to tomcat server.xml to use mod_jk
#  <Connector address="127.0.0.1" port="60001" protocol="AJP/1.3"
redirectPort="443" />
#

#Use VHOST company1.ahsay.com 123.123.123.123
admin@ahsay.com 60001 "D:\Applications\Company1\webapps"
conf/wildcard.NOT_SECURE.com.crt
conf/wildcard.NOT_SECURE.com.key conf/ca.crt 2048000
```

Modify the ServerRoot, NameVirtualHost (highlighted in red) according to your environment settings.

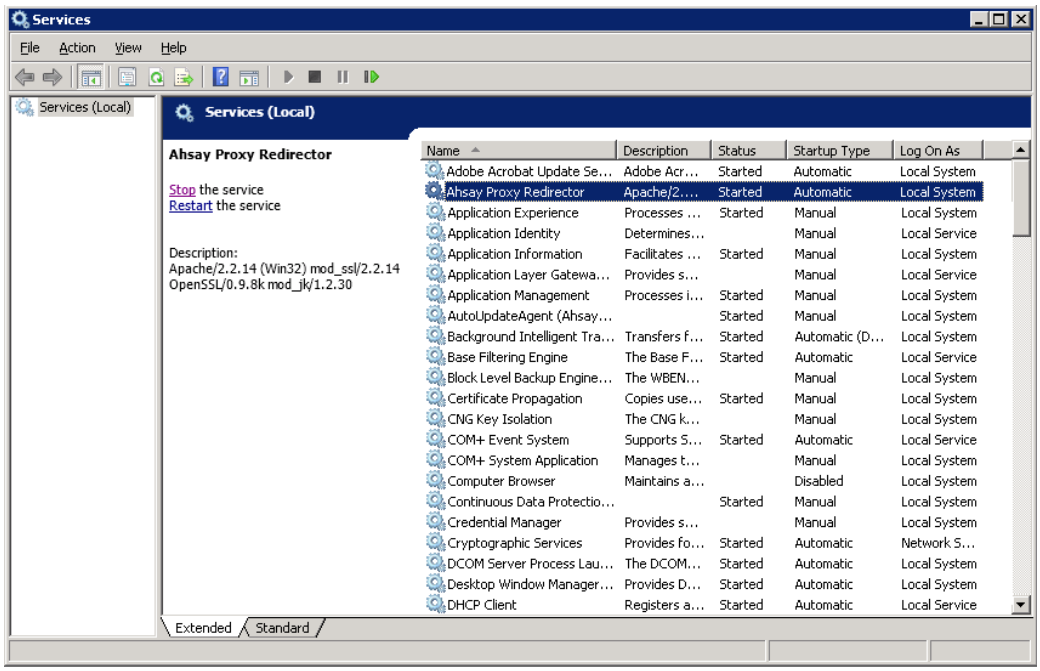
Note:

a. The server root refers to the path of the Ahsay Proxy Redirector folder.
b. The NameVirtualHost is your machine's IP address.

4. Run the install-service.bat inside D:/Applications/Ahsay Proxy Redirector folder .



5. Check the installed service.


Services
File Action View Help
Services (Local)
Services (Local)
Ahsay Proxy Redirector
Stop the service
Restart the service
Description:
Apache/2.2.14 (Win32) mod_ssl/2.2.14
OpenSSL/0.9.8k mod_jk/1.2.30
Name Description Status Startup Type Log On As
Adobe Acrobat Update Se... Adobe Acr... Started Automatic Local System
Ahsay Proxy Redirector Apache/2.... Started Automatic Local System
Application Experience Processes ... Started Manual Local System
Application Identity Determines... Manual Local Service
Application Information Facilitates ... Started Manual Local System
Application Layer Gatewa... Provides s... Manual Local Service
Application Management Processes i... Started Manual Local System
AutoUpdateAgent (Ahsay... Started Manual Local System
Background Intelligent Tra... Transfers f... Started Automatic (D... Local System
Base Filtering Engine The Base F... Started Automatic Local Service
Block Level Backup Engine... The WBEN... Manual Local System
Certificate Propagation Copies use... Started Manual Local System
CNG Key Isolation The CNG k... Manual Local System
COM+ Event System Supports S... Started Automatic Local Service
COM+ System Application Manages t... Manual Local System
Computer Browser Maintains a... Disabled Local System
Continuous Data Protectio... Started Manual Local System
Credential Manager Provides s... Manual Local System
Cryptographic Services Provides fo... Started Automatic Network S...
DCOM Server Process Lau... The DCOM... Started Automatic Local System
Desktop Window Manager... Provides D... Started Automatic Local System
DHCP Client Registers a... Started Automatic Local Service
Extended Standard

4.4.2 Prepare a wild card certificate for the AhsayPRD

Default installation of AhsayPRD enables SSL (Secure Socket Layer) support using a wild card dummy certificate. For your own security, you are advised to replace the pre-installed dummy SSL cert with a secure SSL certificate from a trusted CA (Certificate Authurity). The generation of a wild card cert is required because, all your AhsayOBS instances may share the SSL cert under the same domain name eg: OBS1.**ahsay.com** , OBS2.**ahsay.com** . If you are hosting different domains with the same AhsayPRD, then you need to have another wild card cert.

To replace the non-secure dummy wild card SSL certificate with a secure SSL certificate, please do the following:

1. Identify the location of the cert files.

   It is located in D:\Application\Ahsay Proxy Redirector\conf , called wildcard.NOT_SECURE.com.crt , wildcard.NOT_SECURE.com.key and ca.crt .

Key	Description
Wild card public key	This is a wild card public key file.
Wild card private key	This is a wild card private key file.
CA root cert	The CA root cert file.

2. Generate the Certificate Signing Request

   To generate a pair of private key and public Certificate Signing Request (CSR) for AhsayPRD, please use the following command:

```
set OPENSSL_CONF=D:\Ahsay Proxy Redirector\OpenSSL\bin\openssl.cfg

openssl req -new -nodes -keyout myserver.key -out server.csr -newkey rsa:2048
```

   This creates two files. The file myserver.key contains a private key; do not disclose this file to anyone. Carefully protect the private key.

   You will now be asked to enter details to be entered into your CSR. For some fields, there will be a default value, if you enter '.' the field will be left blank. Use the wild card cert name eg: *.mycompany.com as Common Name (CN).

   eg:

Full Example

```
D:\Applications\Ahsay Proxy Redirector\OpenSSL\bin>set OPENSSL_CONF=D:\Ahsay Proxy Redirector\OpenSSL\bin\openssl.cfg

D:\Applications\Ahsay Proxy Redirector\OpenSSL\bin>openssl req -new -nodes -keyout myserver.key -out server.csr -newkey rsa:2048
Loading 'screen' into random state - done
```

```
Generating a 2048 bit RSA private key
.............+++
.............................+++
writing new private key to 'myserver.key'
-----
You are about to be asked to enter information that will be
incorporated into your certificate request.
What you are about to enter is what is called a Distinguished Name
or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.
-----
Country Name (2 letter code) [AU]:US
State or Province Name (full name) [Some-State]:Texas
Locality Name (eg, city) []:Houston
Organization Name (eg, company) [Internet Widgits Pty Ltd]:My
Company Inc
Organizational Unit Name (eg, section) []:IT Division
Common Name (eg, YOUR name) []:*.mycompany.com
Email Address []:admin@mycompany.com

Please enter the following 'extra' attributes
to be sent with your certificate request
A challenge password []:xxxxxx
An optional company name []:

D:\Applications\Ahsay Proxy Redirector\OpenSSL\bin>
```

Note: CA accepts a 2048-bit RSA private key only, as breaking a 1024-bit private key algorithm is now possible.

4. Apply the wild card cert from your CA with the CSR file (server.csr) generated in the last step.

5. When your CA signed the wild card SSL cert, you can put the wild card public key, private key and the CA root cert file to the conf folder. The CA root cert can be optained from your CA website.

6. When a new AhsayOBS instance is created, rename the definition in the httpd.conf .

httpd.conf

```
:
:
:
```

```
Use VHOST obs1.ahsay.com 123.123.123.123 admin@ahsay.com 60001
"D:\Applications\OBS1\webapps" conf/wildcard.mycompany.crt
conf/myserver.key conf/ca.crt 2048000
:
:
:
```

7. If a new AhsayOBS instance is setup, you may use the same private key, public key and root CA definition in the httpd.conf (eg: obs2.ahsay.com). If a different domain name is setup (eg: backup.backupvault.com), you may apply another set of private key, public key and root CA definition in the httpd.conf .

eg:

httpd.conf

```
:
:
:
Use VHOST obs1.ahsay.com 123.123.123.123 admin@ahsay.com 60001
"D:\Applications\OBS1\webapps" conf/wildcard.mycompany.crt
conf/myserver.key conf/ca.crt 2048000

Use VHOST obs2.hsay.com 123.123.123.123 admin@ahsay.com 60003
"D:\Applications\OBS2\webapps" conf/wildcard.mycompany.crt
conf/myserver.key conf/ca.crt 1024000

Use VHOST backup.backupvault.com 123.123.123.123
admin@ahsay.com 60005 "D:\Applications\backup\webapps"
conf/wildcard.backupvault.crt  conf/mybackupserver.key
conf/ca_root.crt 4096000
:
:
:
```

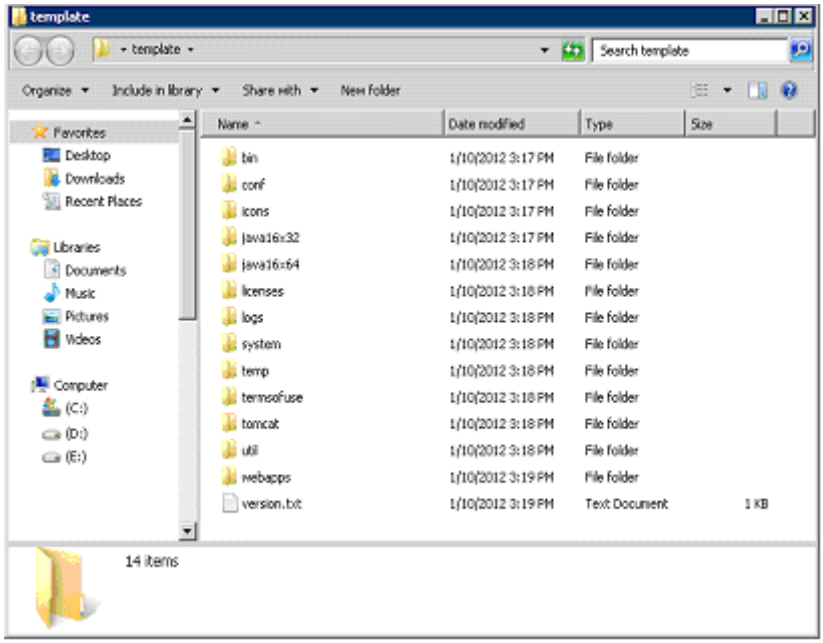
Note: Once you setup the SSL cert in the AhsayPRD, you are not required to install any other SSL cert in the keystore file in the AhsayOBS.

4.4.3 Prepare the AhsayOBS template for your resellers

The following will guide you to prepare each AhsayOBS from a template. For each reseller's AhsayOBS, you are required to copy the template folder to create a new AhsayOBS instance. If you need a branded OBS template, you can follow our instructions of our Ahsay Help Centre Article #2457 to prepare the images and properties files.

1. Download AhsayOBSR for Windows "Upgrade Existing Installation" release (obsr-win.zip) from our website, do not the use the "New Installation". This is because AhsayOBS installation is not required.

2. Expand the obsr-win.zip to a directory called "template" inside "D:\Application" folder.



3. Keep necessary directories and files for the template. Some of the expanded folders are not required for the template, after reading the following table, you can decide if you need to keep these folders.

Folders required:

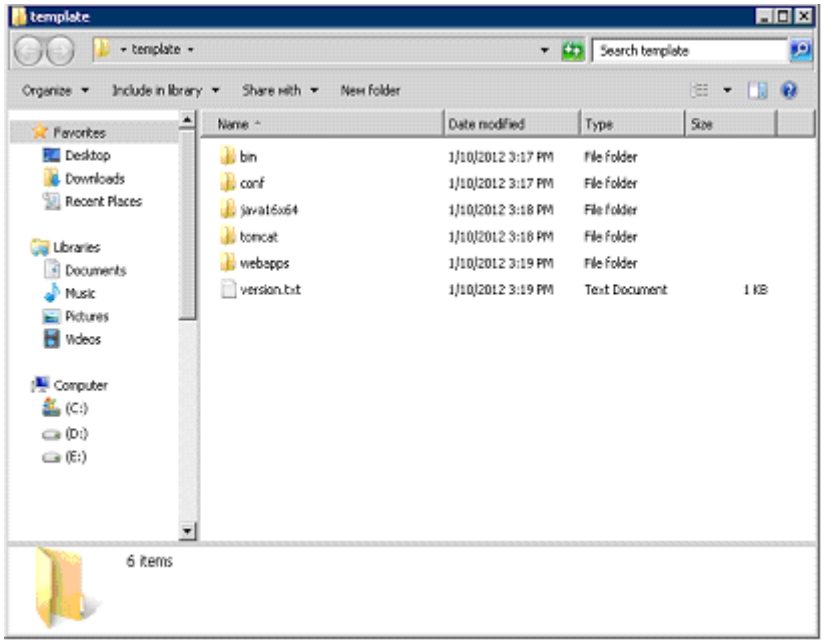
Folders	Description
bin	Contains the startup and shutdown binaries of the AhsayOBS service.
conf	Contains the AhsayOBS configuration, such as the license, AhsayOBS management console etc.
java16x64	64-bit Java run-time library. It is required for a 64-bit Windows OS.
tomcat	Tomcat library and setup files.
webapps	It contains AhsayOBS, AhsayRPS library files, html/jsp files, images/logos etc.

version.txt	It contains the version of the AhsayOBS for your reference.

Folders not required:

Folders	Description
icons	Contains the AhsayOBS installation icons, such as desktop icons files, which is not required in this setup.
java16x32	Contains the Java 32-bit library which is not required for a Windows 2008 or Windows 2003 64-bit setup.
licenses	Java, Tomcat, Apache terms of use, after you read them, you can remove this folder.
logs	Folder for your AhsayOBS log files, such as access logs, Catalina logs, etc.
system	Folder for system logs, pending email, backup log, error log etc.
temp	A temporary folder.
termsofuse	Terms of use of the AhsayOBS.
util	Utilities used with AhsayOBS installer, generally not required for the update version.

After you removed these folders, it should look like the following.



4. The startup.bat defined the home location of Tomcat and OBS when AhsayOBS startup. In a standard installation, the home location of the Tomcat and OBS are located in the same directory. In case you want Tomcat to write logs in another drive eg: E:\ drive, you need to modify the startup.bat and shutdown.bat .

eg:

i. Define the TC_HOME at the top of the startup.bat , since this is a template, the actual location will be defined when you setup a new AhsayOBS instance.

startup.bat

```
@echo off

SET TC_HOME=

@REM ************** Please leave JAVA_HOME empty as it is
SET JAVA_HOME=

:
:
```

ii. Remark the line TC_HOME=%OBS_HOME% , so that the value of the OBS_HOME value is not the same as the value of the TC_HOME.

startup.bat

```
:
:

@REM SET TC_HOME=%OBS_HOME%

:
:
```

iii. You can also find the following path definitions.

startup.bat

```
:
:

SET CATALINA_TMPDIR=%TC_HOME%\temp
SET TC_LOG_PATH=%TC_HOME%\logs
SET TC_WORK_PATH=%TC_HOME%\work
SET TC_OBS_CONF_PATH=%OBS_HOME%\conf
SET TC_RPS_CONF_PATH=%OBS_HOME%\conf

:
:
```

Since the OBS_HOME was defined in the current directory of the AhsayOBS application, when you define a new path for TC_HOME, the logs file, temp files, and the work files will be stored in a new path.

You also need to modify the shutdown.bat in the same way that you modified in the startup.bat .

shutdown.bat

```
@echo off

SET TC_HOME=

@REM ************** Please leave JAVA_HOME empty as it is
SET JAVA_HOME=

:
:
```

```
@REM SET TC_HOME=%OBS_HOME%

:
:

SET CATALINA_TMPDIR=%TC_HOME%\temp
SET TC_LOG_PATH=%TC_HOME%\logs
SET TC_WORK_PATH=%TC_HOME%\work
SET TC_OBS_CONF_PATH=%OBS_HOME%\conf
SET TC_RPS_CONF_PATH=%OBS_HOME%\conf

:
:
```

5. Rename the bin\startup.bat and bin\shutdown.bat to startup.bat.bak and shutdown.bat.bak . This is to avoid when you setup the AhsayOBS service in the following steps, service will be started automatically.

   Note: In our example, we put the template folder in the D:\Applications\Template , you can change the location if you like.

   If you need a branded OBS template, you can put the images and properties in the webapps folder, please follow our Ahsay Help Centre Article #2457 to prepare the images and properties files.

6. Copy the below xml definition and replace the D:\Applications\Template\conf\server.xml

server.xml

```
<Server port="60002" shutdown="SHUTDOWN">

  <Service name="Tomcat-Standalone">

    <!-- Define a non-SSL HTTP/1.1 Connector on port 80 -->
    <Connector address="127.0.0.1" port="60001" protocol="AJP/1.3"
redirectPort="443" />

    <Engine name="Standalone" defaultHost="localhost" >
      <Host name="localhost" appBase="webapps" unpackWARs="true"
autoDeploy="false" liveDeploy="false">
        <Valve className="org.apache.catalina.valves.AccessLogValve"
               directory="${tc.log.path}" prefix="access_log." suffix=".log"
               pattern="common"/>
      </Host>
    </Engine>
```

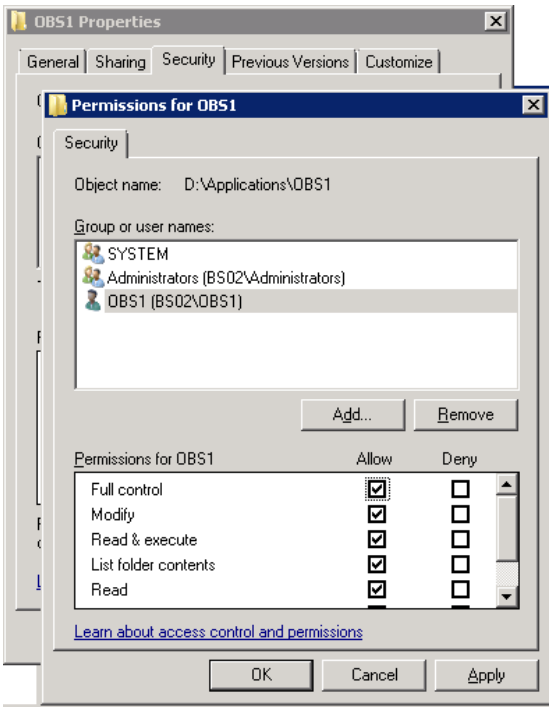
```
  </Service>

</Server>
```

4.4.4 Setup each dedicated AhsayOBS instance

1. Create a local Windows user [Standard User], e.g. OBS1, for this AhsayOBS and assign a password for this user.

   Note: It is not compulsory to setup a local Windows user to run this service, but it is highly recommended to create a separate local Windows account for each AhsayOBS instance for management purpose. Please also create a password for this Windows user.

2. Make a copy of "D:\Applications\Template" as "D:\Applications\OBS1", you are suggested to apply a full folder persmission of "D:\Applications\OBS1" to the Windows user "OBS1" for administration purpose.

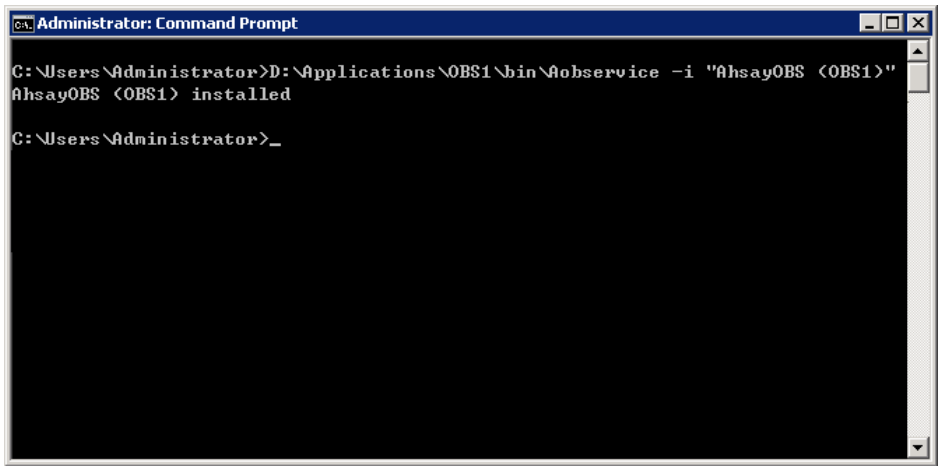


   Note: If you are going to assign a dedicated drive eg drive E: for the user home of OBS1, please also assign the same permission to the drive.

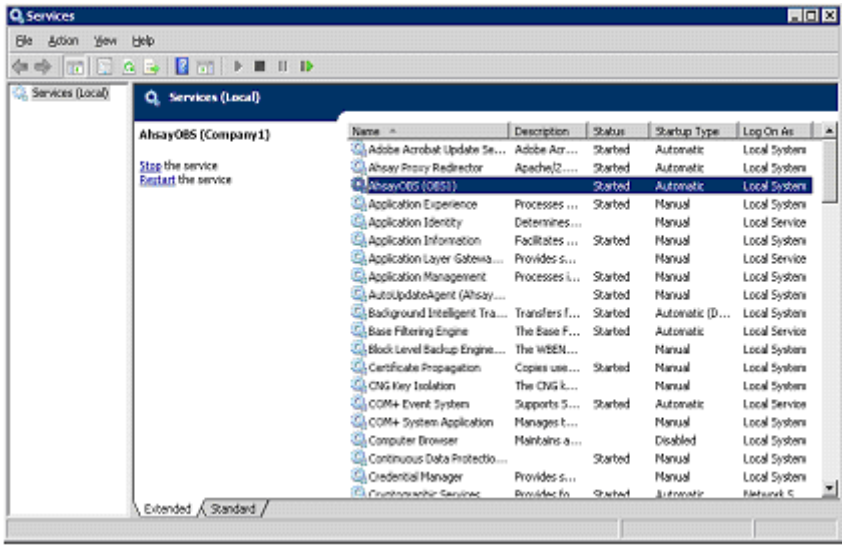
3. Run the following command from the command prompt to install the AhsayOBS service as a startup service for your reseller.

eg:

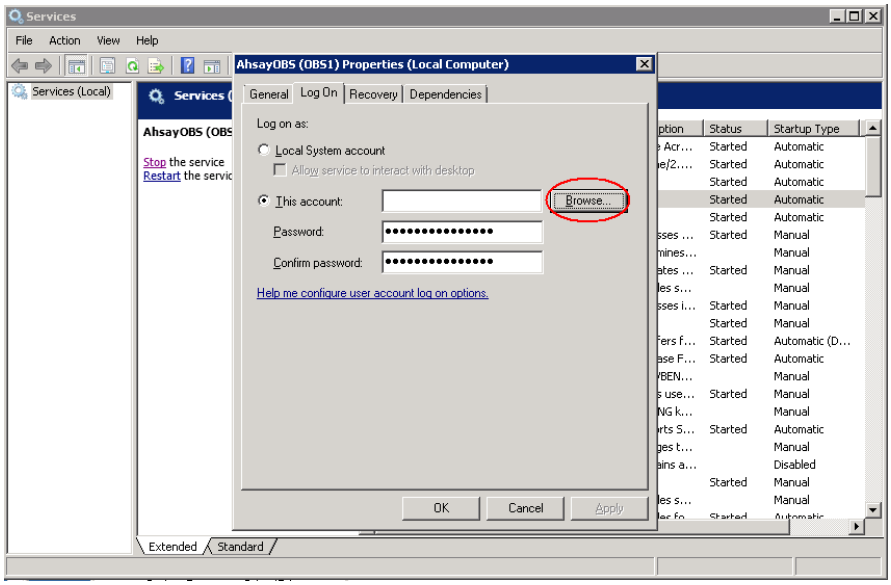
D:\Applications\OBS1\bin\Aobservice -i "AhsayOBS (OBS1)"



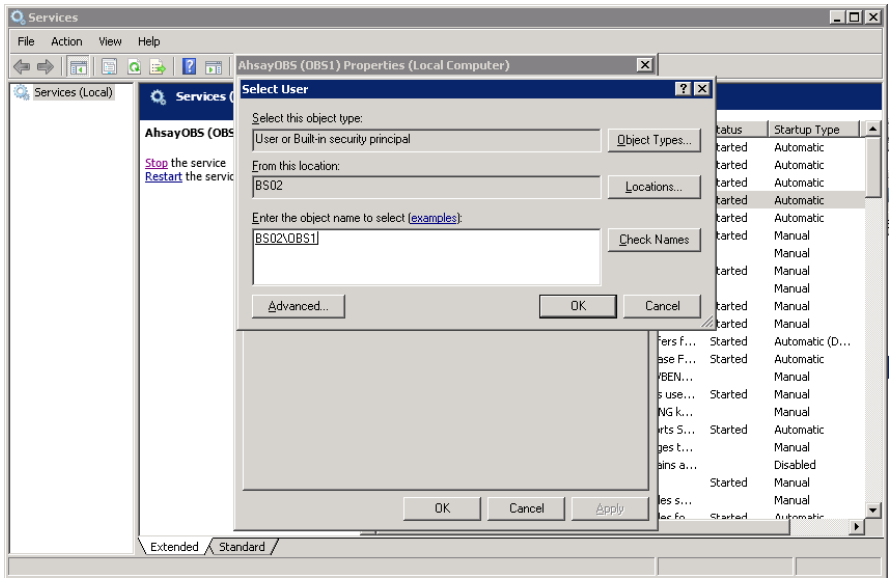
After you installed the AhsayOBS service, the service is started by default, you can stop the service in the Control Panel > Administrative Tools > Services



4. Right click the properties of the created service, click on the Log On tab, change the logon of the service to the "This account", click on [Browse].



Change the log on to "OBS1"



Note: You need to apply a password after you click OK.

5. Open [D:\Applications\OBS1\bin\startup.bat.bak] and change the TC_HOME environment variable to [E:\OBS1] where E is the drive letter of drive to be used exclusively for this AhsayOBS instance

eg:

```
startup.bat.bak
```

```
@echo off

SET TC_HOME=E:\OBS1

@REM ************** Please leave JAVA_HOME empty as it is
SET JAVA_HOME=

@REM ************** Please set the correct values for OBS_HOME,
relative to OBS_HOME always
cd ..
SET OBS_HOME=.
:
:
:
```

6. Open [D:\Applications\OBS1\bin\shutdown.bat.bak] and change the TC_HOME as in the previous step.

eg:

shutdown.bat.bak

```
@echo off

SET TC_HOME=E:\OBS1

@REM ************** Please leave JAVA_HOME empty as it is
SET JAVA_HOME=

@REM ************** Please set the correct values for OBS_HOME,
relative to OBS_HOME always
cd ..
SET OBS_HOME=.
:
:
:
```

7. Open [D:\Applications\OBS1\conf\server.xml] and change the Tomcat management interface port to a free TCP port eg:60008 and the AhsayOBS server port port to a free TCP port eg:60007 which is used for this AhsayOBS instance exclusively.

server.xml

```
<Server port="60008" shutdown="SHUTDOWN">

  <Service name="Tomcat-Standalone">

    <!-- Define a non-SSL HTTP/1.1 Connector on port 80 -->
    <Connector address="127.0.0.1" port="60007" protocol="AJP/1.3"
redirectPort="443" />

    <Engine name="Standalone" defaultHost="localhost" >
      <Host name="localhost" appBase="webapps" unpackWARs="true"
autoDeploy="false" liveDeploy="false">
        <Valve className="org.apache.catalina.valves.AccessLogValve"
               directory="${tc.log.path}" prefix="access_log." suffix=".log"
               pattern="common"/>
      </Host>
    </Engine>

  </Service>

</Server>
```

For easy management, please assign a pair of free ports for each AhsayOBS instance, eg: "60007 and 60008", "60009 and 60010" .....

8. Open [D:\Applications\OBS1\conf\autoDiscovery.xml] and change the Auto Discovery server port to a free TCP port eg:10011 and the client port to a free TCP port eg:10012

autoDiscovery.xml

```
<Root><AutoDiscovery server-port="10011" client-port="10012"
/></Root>
```

For easy management, please assign a pair of free ports for each AhsayOBS instance, eg: "10011 and 10012", "10013 and 10014" .....

9. Open [D:\Applications\Ahsay Proxy Redirector\conf\httpd.conf] and change the VHOST settings.

httpd.conf

```
ServerRoot "D:/Applications/Ahsay Proxy Redirector"

# include basic configuration files
Include conf/httpd-basic.conf

# Define NameVirtualHost settings for IP OBS
NameVirtualHost 123.123.123.123:80
NameVirtualHost 123.123.123.123:443

# Define VirtualHost settings for company1.ahsay.com
# Need to add this connector to tomcat server.xml to use mod_jk
#  <Connector address="127.0.0.1" port="60001" protocol="AJP/1.3"
redirectPort="443" />
#

#Use VHOST company1.ahsay.com 123.123.123.123 admin@ahsay.com
60001 "D:\Applications\Company1\webapps"
conf/wildcard.NOT_SECURE.com.crt conf/wildcard.NOT_SECURE.com.key
conf/ca.crt 2048000

Use VHOST obs1.ahsay.com 123.123.123.123 admin@ahsay.com 60007
"D:\Applications\OBS1\webapps" conf/wildcard.NOT_SECURE.com.crt
conf/wildcard.NOT_SECURE.com.key conf/ca.crt 2048000
```

Syntax of the VHOST settting

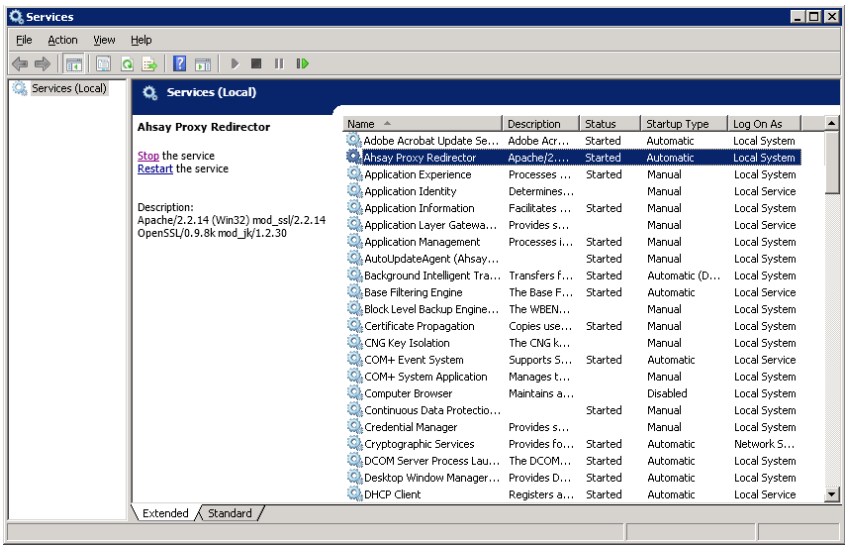
Use VHOST <Hostname> <IP address> <Admin email> <AhsayOBS port number> <Path to AhsayOBS webapps folder><Wild card public key> <Wild card private key> <CA Root cert> <Bandwidth>

Key	Description
Hostname	This is the host name registered with your ISP for the AhsayOBS instance.
IP address	This is the IP address used for the hosting. This IP address should be registered with your ISP with the registered hostname.
Admin email	Email contact of your administrator.
AhsayOBS port number	This is the AhsayOBS connector port defined in step 6.
Path to AhsayOBS webapps folder	This is the path to your AhsayOBS webapps folder. eg. D:\Applications\OBS1\webapps
Wild card public key	This is a wild card public key file. eg: conf/wildcard.NOT_SECURE.com.crt
Wild card private	This is a wild card private key file.

key	eg: conf/wildcard.NOT_SECURE.com.key
CA root cert	The CA root cert file. eg: conf/ca.crt
Bandwidth	Bandwidth defined in MegaBytes. It allows your AhsayOBS to use a maximum bandwidth of your internet.

Note: You need to register eg: obs1.ahsay.com to point to the IP eg: 123.123.123.123 with your DNS hosting company.

10. Restart "Ahsay Proxy Redirector" service in the Control Panel > Administrative Tools > Services

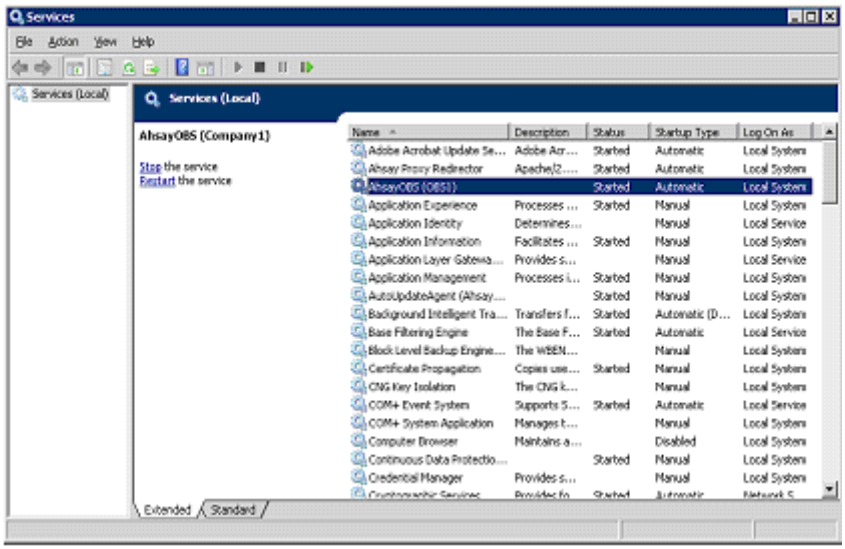

Services
File Action View Help
Services (Local)
Services (Local)
Ahsay Proxy Redirector
Stop the service
Restart the service
Description:
Apache/2.2.14 (Win32) mod_ssl/2.2.14 OpenSSL/0.9.8k mod_jk/1.2.30
Name Description Status Startup Type Log On As
Adobe Acrobat Update Se... Adobe Acr... Started Automatic Local System
Ahsay Proxy Redirector Apache/2.... Started Automatic Local System
Application Experience Processes ... Started Manual Local System
Application Identity Determines... Manual Local Service
Application Information Facilitates ... Started Manual Local System
Application Layer Gatewa... Provides s... Manual Local Service
Application Management Processes i... Started Manual Local System
AutoUpdateAgent (Ahsay... Started Manual Local System
Background Intelligent Tra... Transfers f... Started Automatic (D... Local System
Base Filtering Engine The Base F... Started Automatic Local Service
Block Level Backup Engine... The WBEN... Manual Local System
Certificate Propagation Copies use... Started Manual Local System
CNG Key Isolation The CNG k... Manual Local System
COM+ Event System Supports S... Started Automatic Local Service
COM+ System Application Manages t... Manual Local System
Computer Browser Maintains a... Disabled Local System
Continuous Data Protectio... Started Manual Local System
Credential Manager Provides s... Manual Local System
Cryptographic Services Provides fo... Started Automatic Network S...
DCOM Server Process Lau... The DCOM... Started Automatic Local System
Desktop Window Manager... Provides D... Started Automatic Local System
DHCP Client Registers a... Started Automatic Local Service
Extended Standard

11. When your ISP notifies you that the domain name OBS1.ahsay.com is ready, you can now rename the bin\startup.bat.bak and shutdown.bat.bak to startup.bat and shutdown.bat

12. If you are using a dedicated drive for the user home of the "OBS1" service, eg. E: drive, please modify the obs.xml in D:\Applications\OBS1\conf folder, change the xml tag "user-home" to the following.

```
..... <user-home path="E:\OBS1\user"/>.....
```

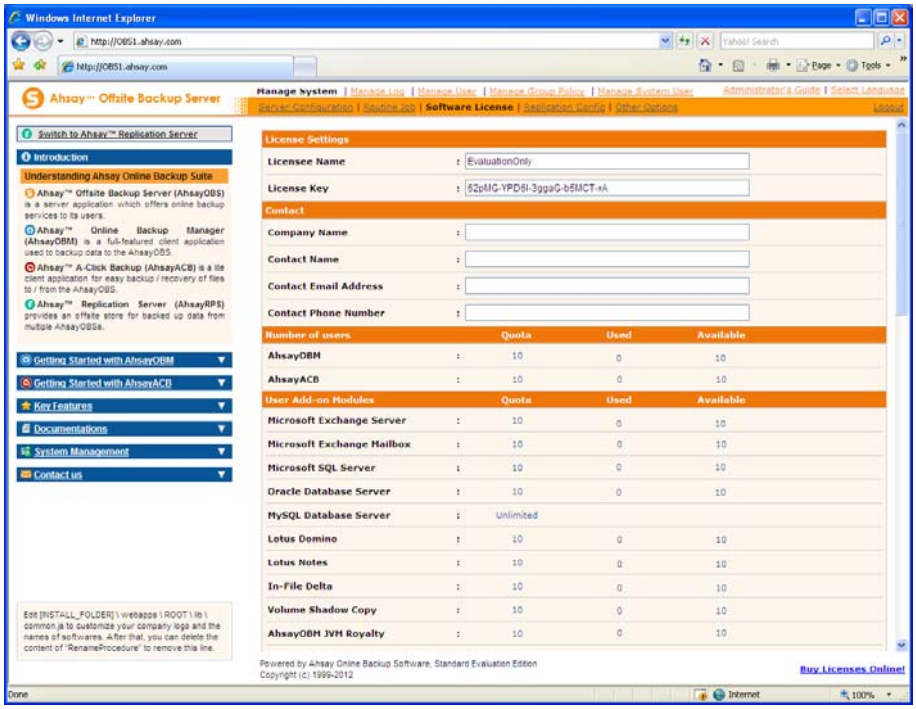
13. Startup the [AhsayOBS (OBS1)] service



14. Open the browser on your desktop and type in http://OBS1.ahsay.com , you should be able to see a new AhsayOBS instance. Login with the default password

    Username: system
    Password: system

15. Apply your license key to the AhsayOBS management console > Manage System > Software License to activate the license.


Windows Internet Explorer
Ahsay™ Offsite Backup Server
Manage System | Manage Log | Manage User | Manage Group Policy | Manage System User
Server Configuration | Routine Job | Software License | Replication Config | Other Options
Switch to Ahsay™ Replication Server
Introduction
Understanding Ahsay Online Backup Suite
Getting Started with AhsayOBM
Getting Started with AhsayACB
Key Features
Documentations
System Management
Contact us
License Settings
Licensee Name : EvaluationOnly
License Key : 62pMG-YPD8I-3ggaG-b5MCT-xA
Contact
Company Name :
Contact Name :
Contact Email Address :
Contact Phone Number :
Number of users Quota Used Available
AhsayOBM : 10 0 10
AhsayACB : 10 0 10
User Add-on Modules Quota Used Available
Microsoft Exchange Server : 10 0 10
Microsoft Exchange Mailbox : 10 0 10
Microsoft SQL Server : 10 0 10
Oracle Database Server : 10 0 10
MySQL Database Server : Unlimited
Lotus Domino : 10 0 10
Lotus Notes : 10 0 10
In-File Delta : 10 0 10
Volume Shadow Copy : 10 0 10
AhsayOBM JVM Royalty : 10 0 10
Powered by Ahsay Online Backup Software, Standard Evaluation Edition
Copyright (c) 1999-2012
Buy Licenses Online!
Done
Internet
100%

Note: The best way to handle the license for your resellers should be purchasing a poolable license from us. You can logon to our Ahsay License Management Portal to re-distribute the license CAL into a pool of license key for your resellers. You can manage the number of CALs easily with the Ahsay License Management Portal. For more information about the poolable license or pool key, you can visit our Ahsay help centre for reference FAQ: Ahsay License Management Portal Overview .

15. If you are adding a new AhsayOBS instance in the future, you can simply follow the above 14 steps to create a new AhsayOBS instance.

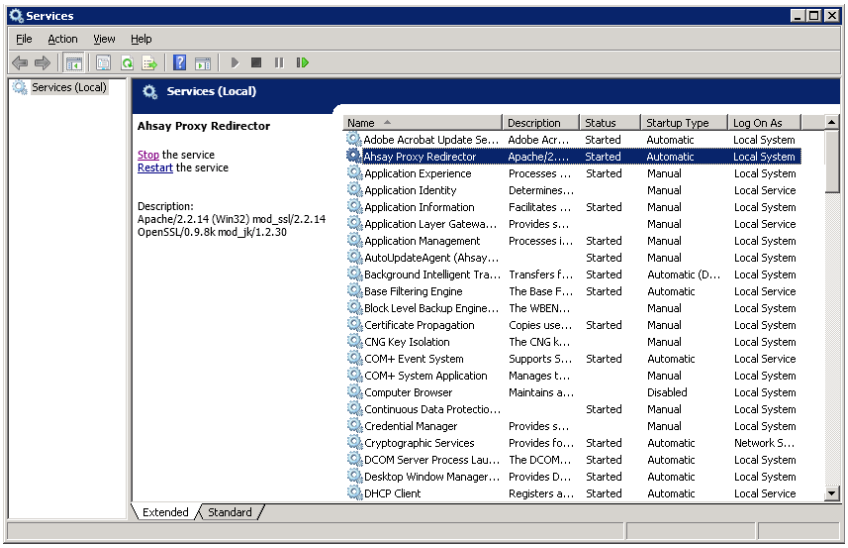
4.4.5 Remove an AhsayOBS instance

1. Open [D:\Applications\Ahsay Proxy Redirector\conf\httpd.conf] and remove the VHOST settings.

httpd.conf

```
ServerRoot "D:/Applications/Ahsay Proxy Redirector"

# include basic configuration files
Include conf/httpd-basic.conf

# Define NameVirtualHost settings for IP OBS
NameVirtualHost 123.123.123.123:80
NameVirtualHost 123.123.123.123:443

# Define VirtualHost settings for company1.ahsay.com
# Need to add this connector to tomcat server.xml to use mod_jk
#  <Connector address="127.0.0.1" port="60001" protocol="AJP/1.3"
redirectPort="443" />
#

#Use VHOST company1.ahsay.com 123.123.123.123 admin@ahsay.com
60001 "D:\Applications\Company1\webapps"
conf/wildcard.NOT_SECURE.com.crt conf/wildcard.NOT_SECURE.com.key
conf/ca.crt 2048000

Use VHOST obs1.ahsay.com 123.123.123.123 admin@ahsay.com 60007
"D:\Applications\OBS1\webapps" conf/wildcard.NOT_SECURE.com.crt
conf/wildcard.NOT_SECURE.com.key conf/ca.crt 2048000
```

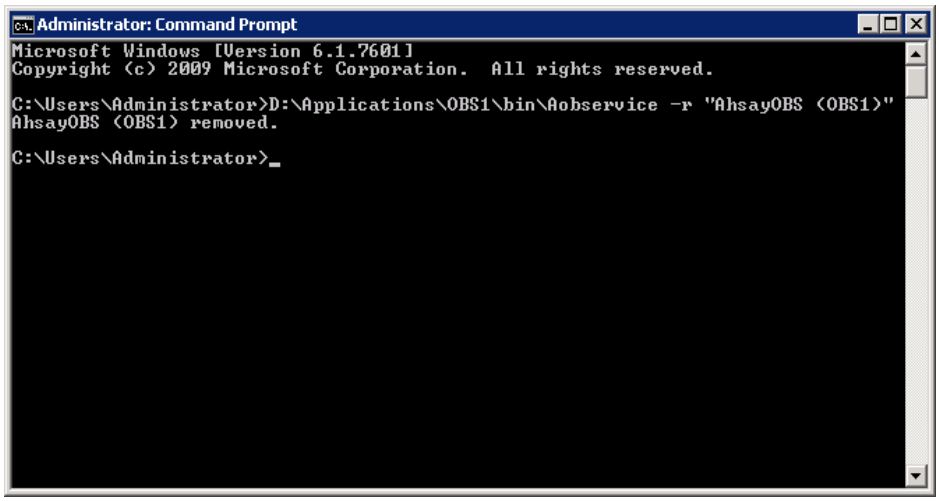
2. Restart "Ahsay Proxy Redirector" service in the Control Panel > Administrative Tools > Services


Services
File Action View Help
Services (Local)
Services (Local)
Ahsay Proxy Redirector
Stop the service
Restart the service
Description:
Apache/2.2.14 (Win32) mod_ssl/2.2.14 OpenSSL/0.9.8k mod_jk/1.2.30
Name
Description
Status
Startup Type
Log On As
Adobe Acrobat Update Se... Adobe Acr... Started Automatic Local System
Ahsay Proxy Redirector Apache/2.... Started Automatic Local System
Application Experience Processes ... Started Manual Local System
Application Identity Determines... Manual Local Service
Application Information Facilitates ... Started Manual Local System
Application Layer Gatewa... Provides s... Manual Local Service
Application Management Processes i... Started Manual Local System
AutoUpdateAgent (Ahsay... Started Manual Local System
Background Intelligent Tra... Transfers f... Started Automatic (D... Local System
Base Filtering Engine The Base F... Started Automatic Local Service
Block Level Backup Engine... The WBEN... Manual Local System
Certificate Propagation Copies use... Started Manual Local System
CNG Key Isolation The CNG k... Manual Local System
COM+ Event System Supports S... Started Automatic Local Service
COM+ System Application Manages t... Manual Local System
Computer Browser Maintains a... Disabled Local System
Continuous Data Protectio... Started Manual Local System
Credential Manager Provides s... Manual Local System
Cryptographic Services Provides fo... Started Automatic Network S...
DCOM Server Process Lau... The DCOM... Started Automatic Local System
Desktop Window Manager... Provides D... Started Automatic Local System
DHCP Client Registers a... Started Automatic Local Service
Extended Standard

3. Run the following command from the command prompt to remove the AhsayOBS instance from startup service.

eg:

D:\Applications\OBS1\bin\Aobservice -r "AhsayOBS (OBS1)"



4. Remove the AhsayOBS instance directory eg: D:\Application\OBS1\
5. If you have created a storage in the previous steps, you need to check if the storage is required to remove, or remove the Windows user account, or remove the DNS entry accordingly.

4.5 Uninstall Software

If you need to uninstall the Ahsay proxy redirector, you need to ensure all the AhsayOBS instances are migrated to other platforms/machines properly. When you uninstall the Ahsay proxy redirector, all your AhsayOBS instances hosted on this machine will not be functioning.

If you need to uninstall the AhsayOBS instances on this machine, please refer to the previous section for details.

To remove the Ahsay proxy redirector, please do the following steps.

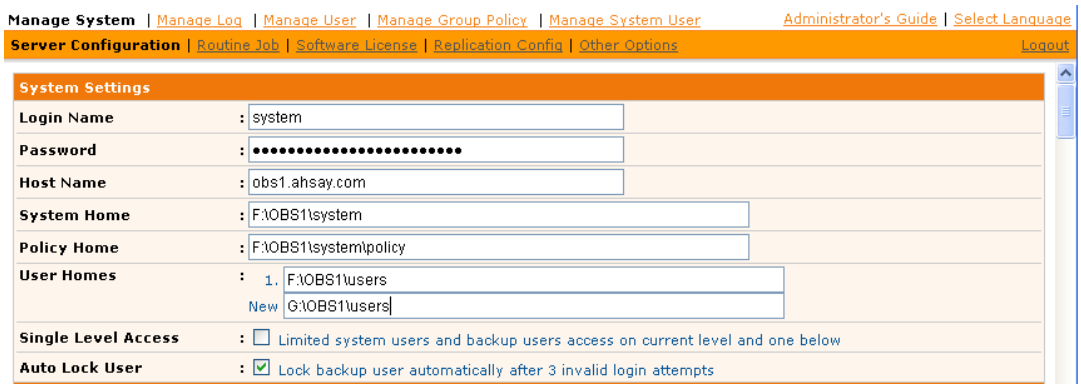
1. Run the uninstall-service.bat inside your installation folder eg: D:\Applications\Ahsay Proxy Redirector .
2. Check the removed service from the Windows service.
3. Remove the installation folder if necessary.

4.6 Manage your AhsayOBS Instance and Future expension

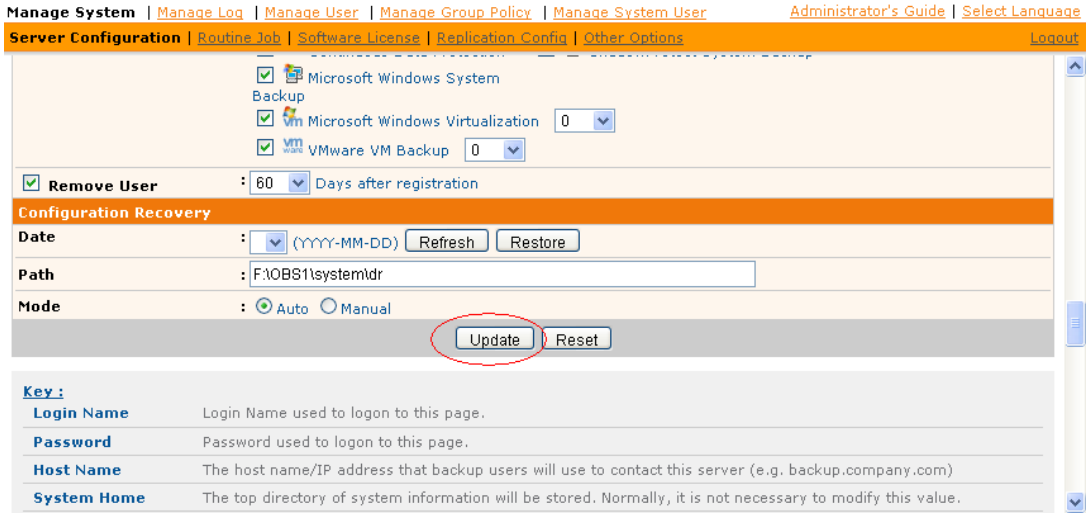
4.6.1 Add new storage for your resellers

If new storage requires to add to your AhsayOBS instance. You can assign a pair of hard disks formatted as RAID 1 for your reseller. For the hard disk setup, please refer to chapter 4.2 .

After you have assigned a drive letter to your newly created RAID disk (eg. G: drive), you can go to your AhsayOBS management console > Server Configuration , add a new user home entry eg: G:\OBS1\users


Manage System | Manage Log | Manage User | Manage Group Policy | Manage System User
Administrator's Guide | Select Language
Server Configuration | Routine Job | Software License | Replication Config | Other Options
Logout
System Settings
Login Name : system
Password : ••••••••••••••••••••••••••
Host Name : obs1.ahsay.com
System Home : F:\OBS1\system
Policy Home : F:\OBS1\system\policy
User Homes : 1. F:\OBS1\users
New G:\OBS1\users
Single Level Access : Limited system users and backup users access on current level and one below
Auto Lock User : Lock backup user automatically after 3 invalid login attempts

Scroll to the middle of the page and click on the [Update] button.


Manage System | Manage Log | Manage User | Manage Group Policy | Manage System User
Administrator's Guide | Select Language
Server Configuration | Routine Job | Software License | Replication Config | Other Options
Logout
Microsoft Windows System Backup
Microsoft Windows Virtualization 0
VMware VM Backup 0
Remove User : 60 Days after registration
Configuration Recovery
Date : (YYYY-MM-DD) Refresh Restore
Path : F:\OBS1\system\dr
Mode : Auto Manual
Update Reset
Key :
Login Name Login Name used to logon to this page.
Password Password used to logon to this page.
Host Name The host name/IP address that backup users will use to contact this server (e.g. backup.company.com)
System Home The top directory of system information will be stored. Normally, it is not necessary to modify this value.

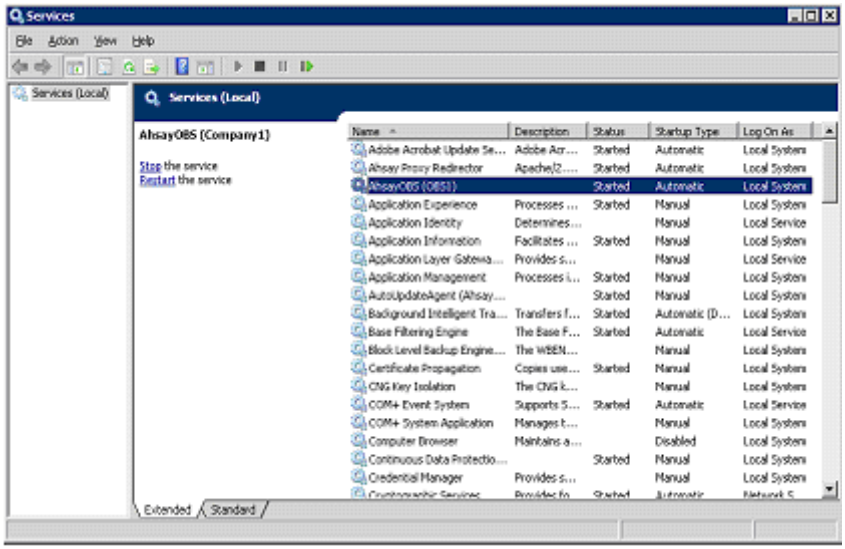
You will have 2 user homes on this AhsayOBS instance. You may relocate your users or add new users to this user home.

Note: When you relocate users, we suggest you to turn off the service for that AhsayOBS instance to ensure data integrity.

4.6.2 Update your existing AhsayOBS instance

If you need to update your existing AhsayOBS instance, you will need to have a new version of template ready. Please refer to chapter 4.4.3 to prepare a new template.

1. Stop your AhsayOBS service in the Control Panel > Administrative Tools > Services

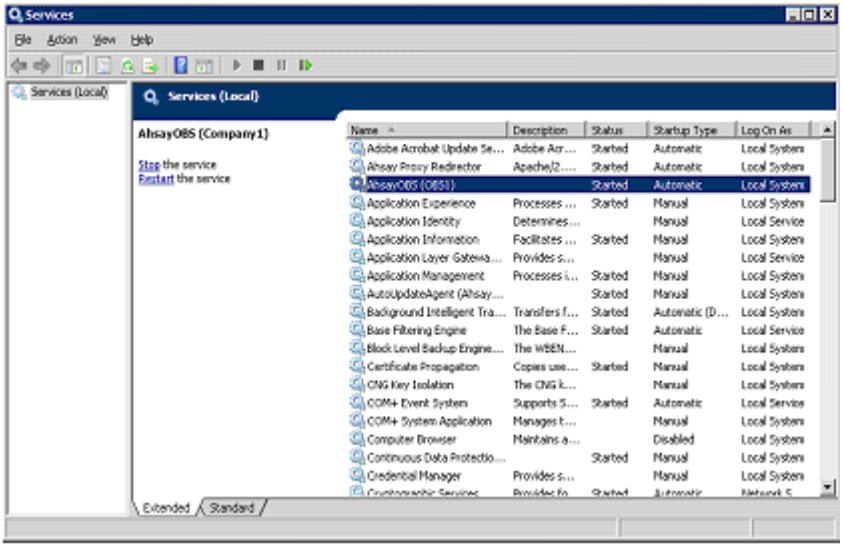


2. Rename your existing folder in D:\Applications
eg: OBS1 to OBS1_6700

3. Copy the new template folder to OBS1

4. Copy the conf folder in the OBS1_6700 and replace the conf folder in OBS1. Unless you want to make a copy of the original config, otherwise you can overwrite all the xml files in the conf folder.

5. Start your AhsayOBS service in the Control Panel > Administrative Tools > Services



6. Run your new AhsayOBS from your browser.

5 Further Information

If you have any question or suggestion about this document, please send an email to our support team via our Help Centre Ticketing System.